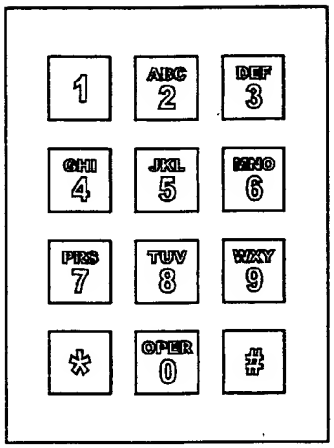

FIG. 1
(Prior Art)

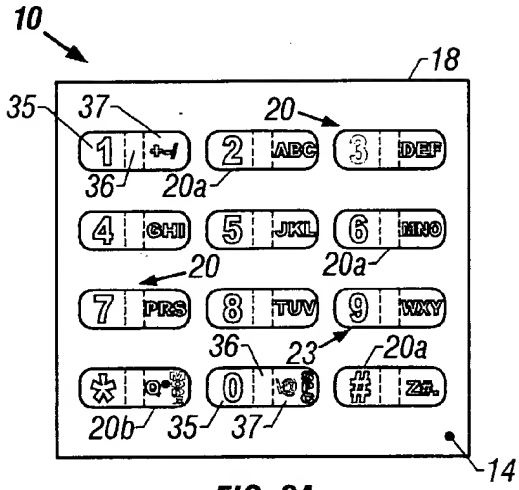

FIG. 2A

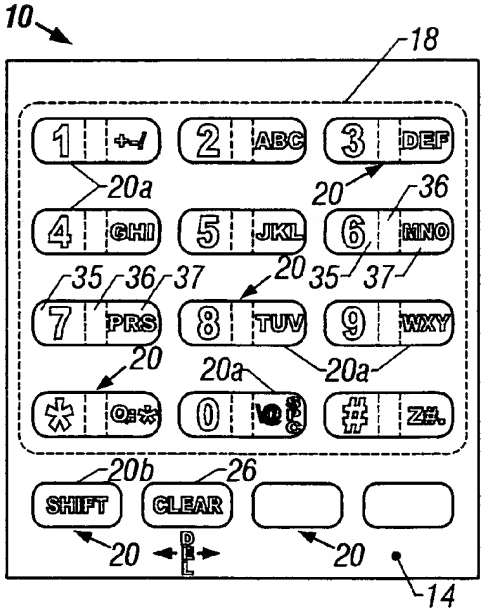

FIG. 2B

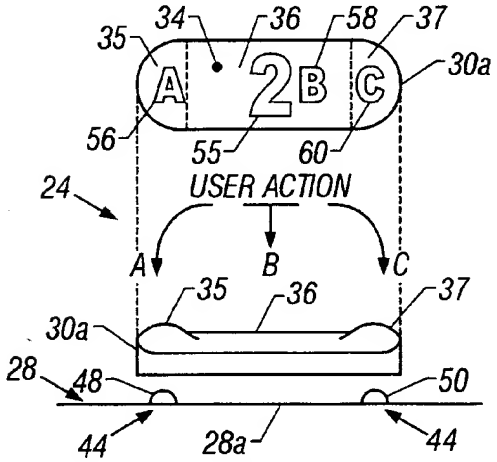

FIG. 3A

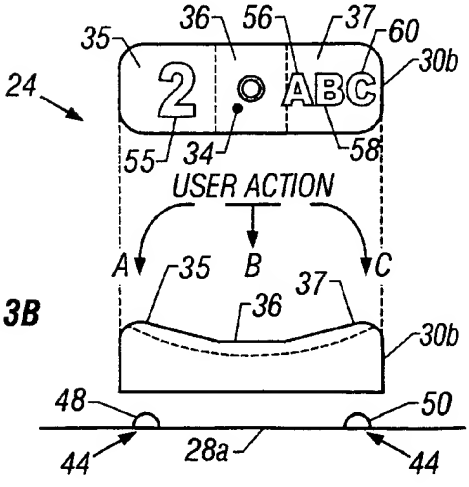

FIG. 3B

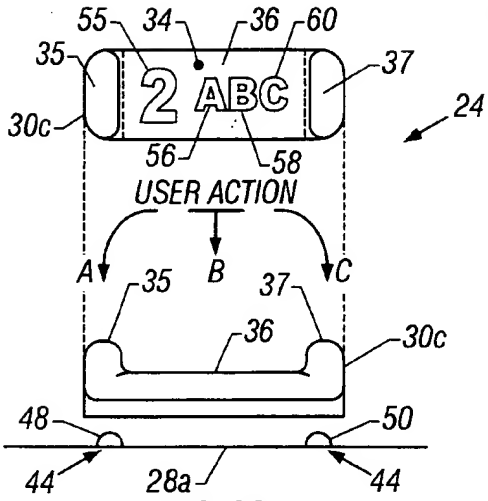

FIG. 3C

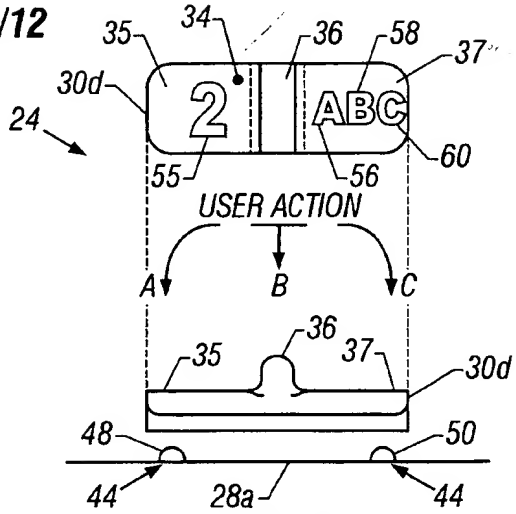

FIG. 3D

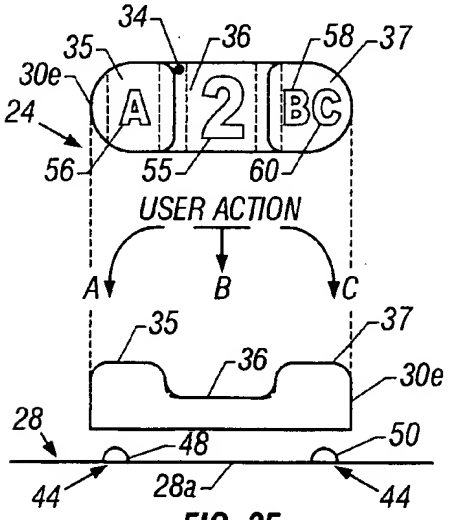

FIG. 3E

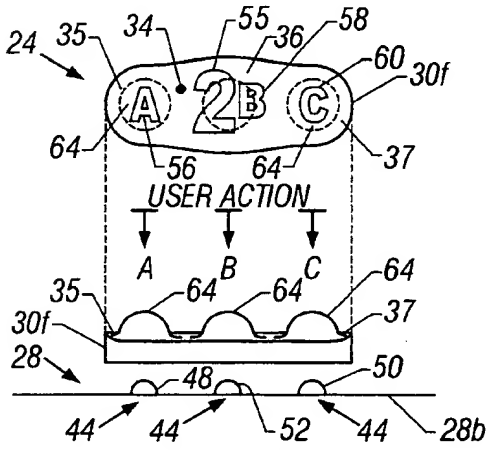

FIG. 4A

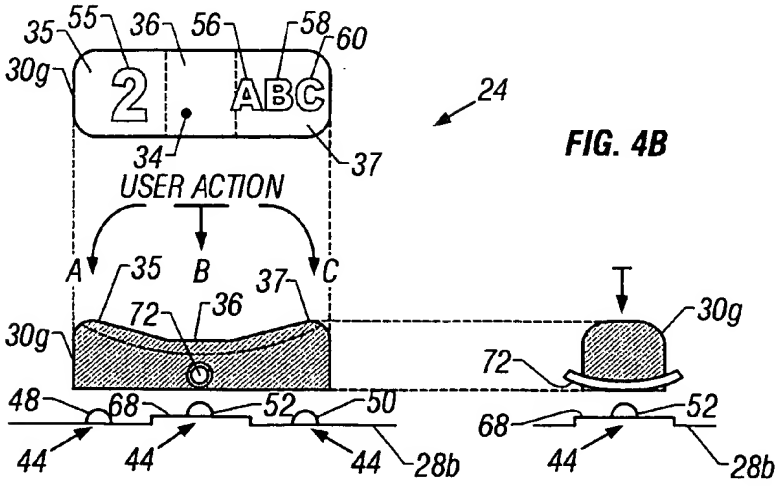

FIG. 4B

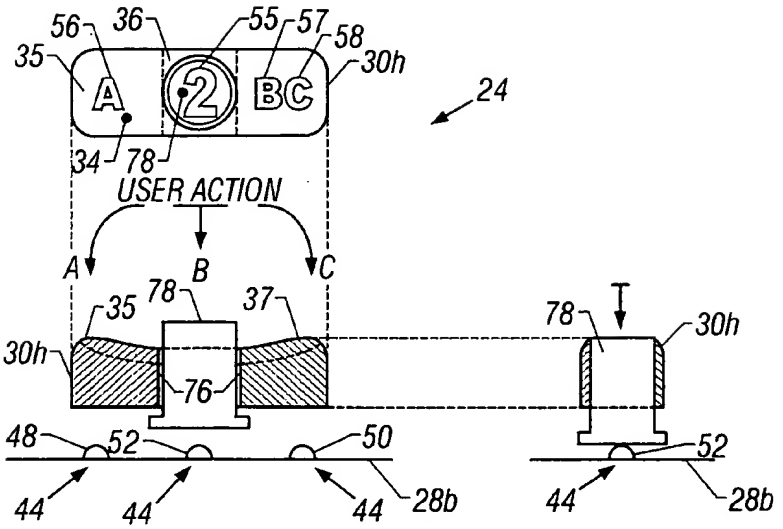

FIG. 4C

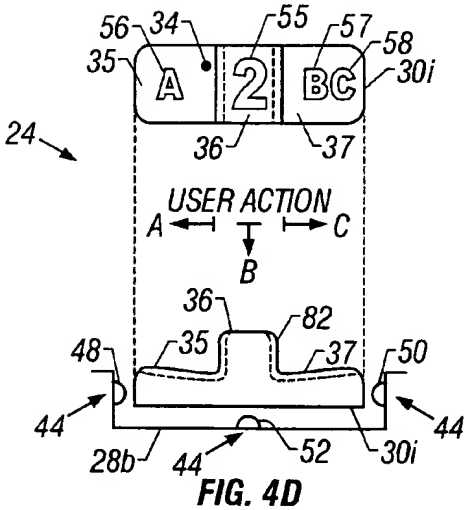

FIG. 4D

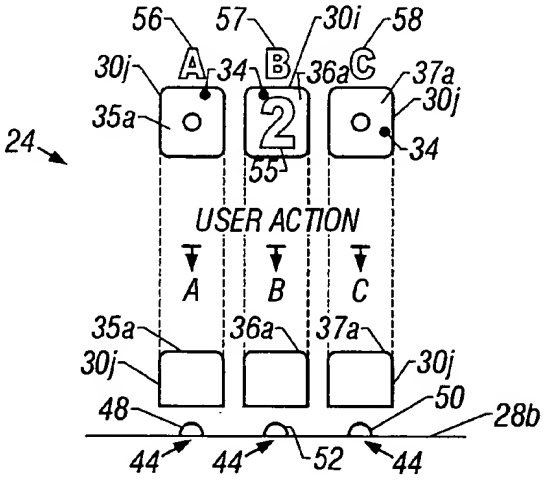

FIG. 4E

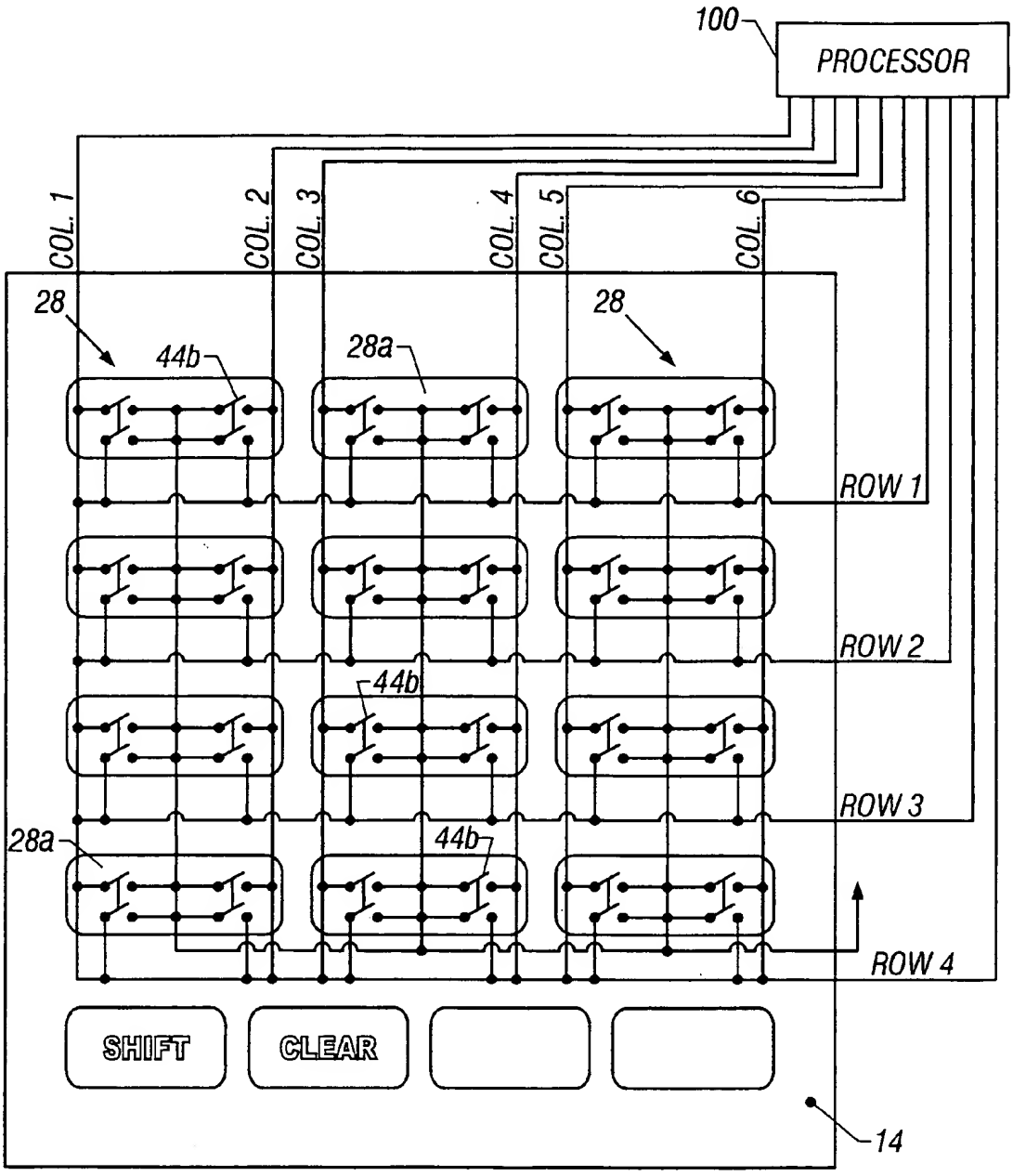
100
PROCESSOR
COL. 1
COL. 2
COL. 3
COL. 4
COL. 5
COL. 6
28
44b
28a
28
ROW 1
ROW 2
44b
ROW 3
28a
44b
ROW 4
SHIFT
CLEAR
14

FIG. 5A

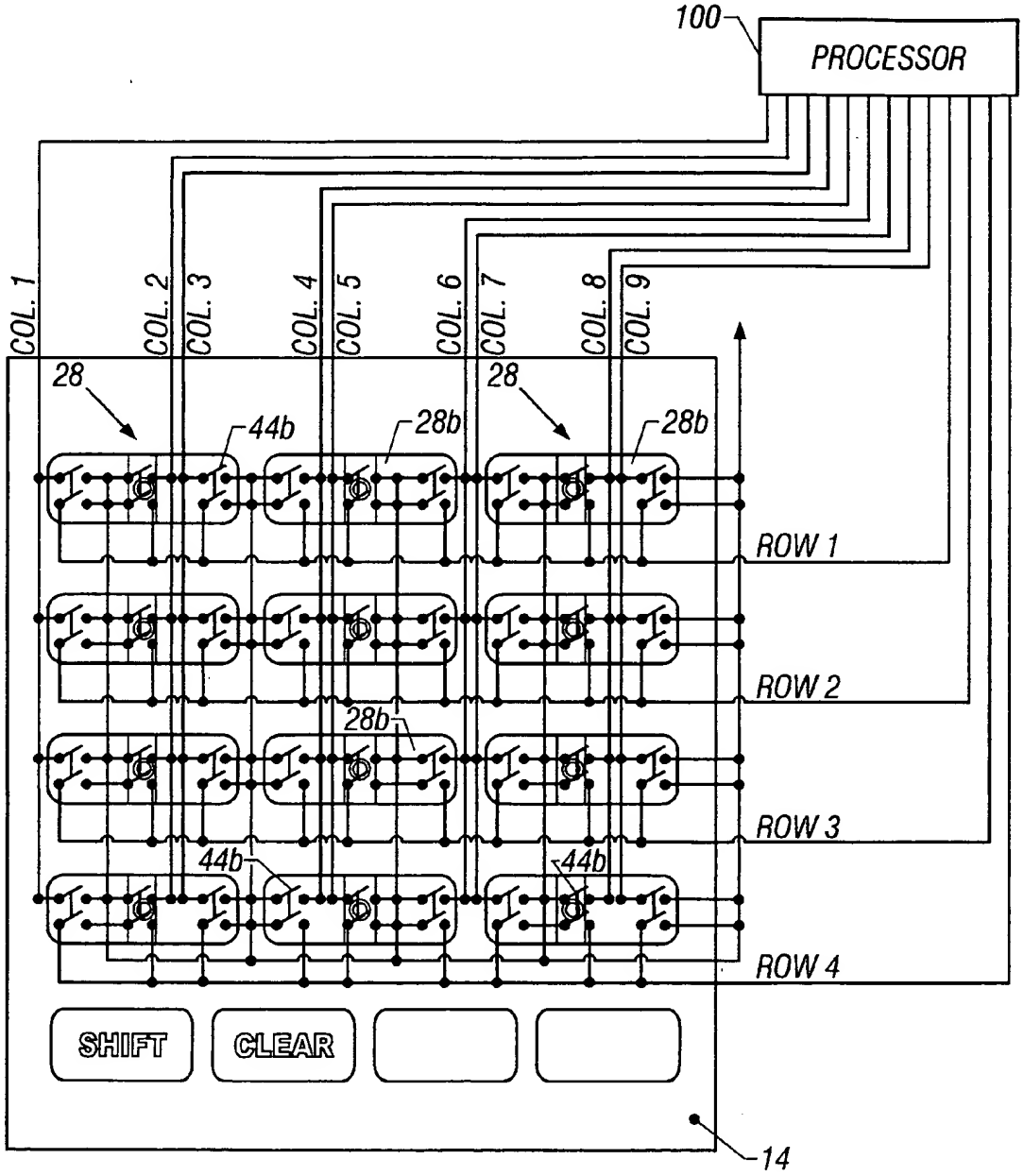
100
PROCESSOR
COL. 1
COL. 2
COL. 3
COL. 4
COL. 5
COL. 6
COL. 7
COL. 8
COL. 9
28
28
44b
28b
28b
28b
44b
44b
ROW 1
ROW 2
ROW 3
ROW 4
SHIFT
CLEAR
14

FIG. 5B

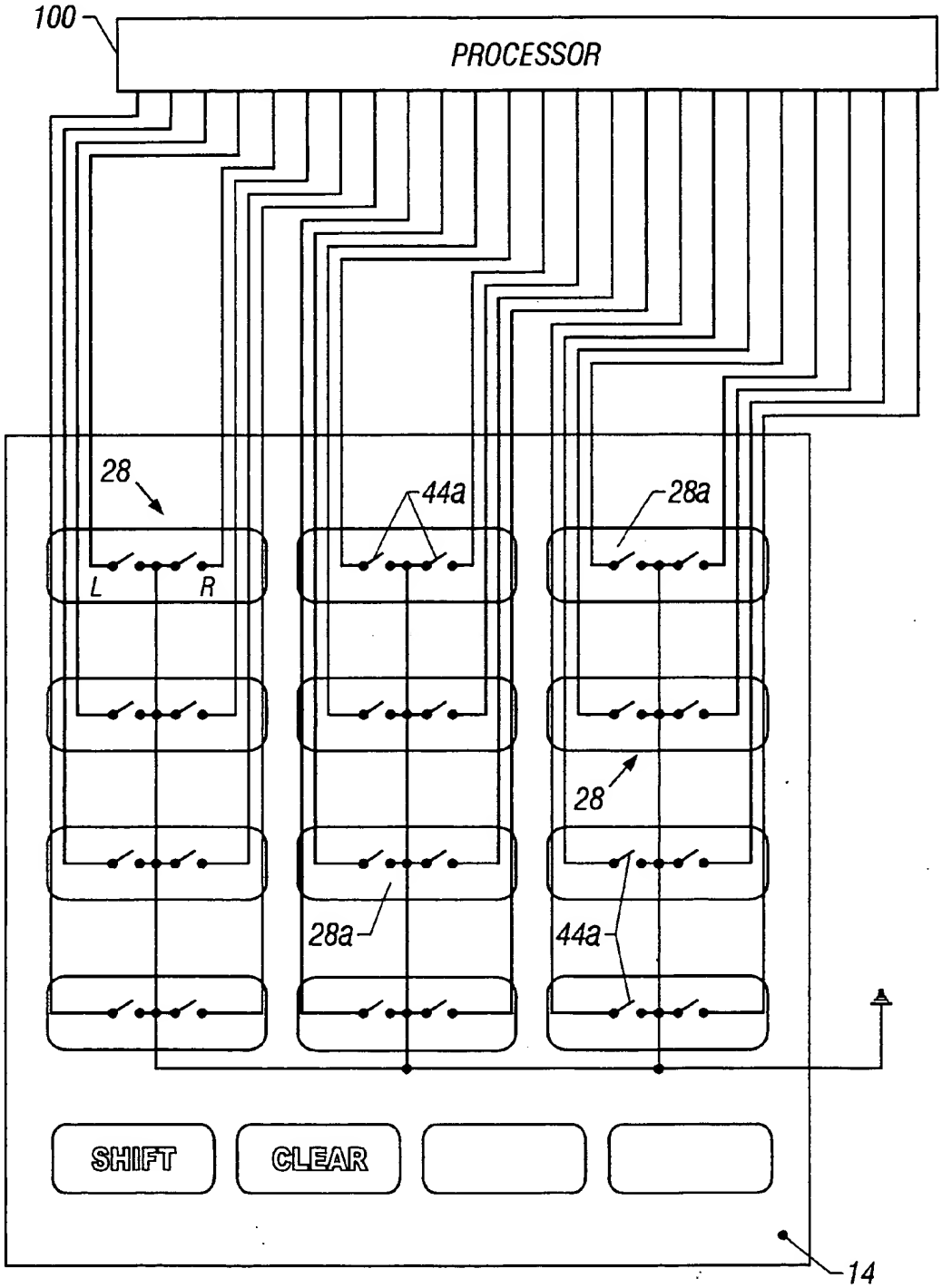

FIG. 5C

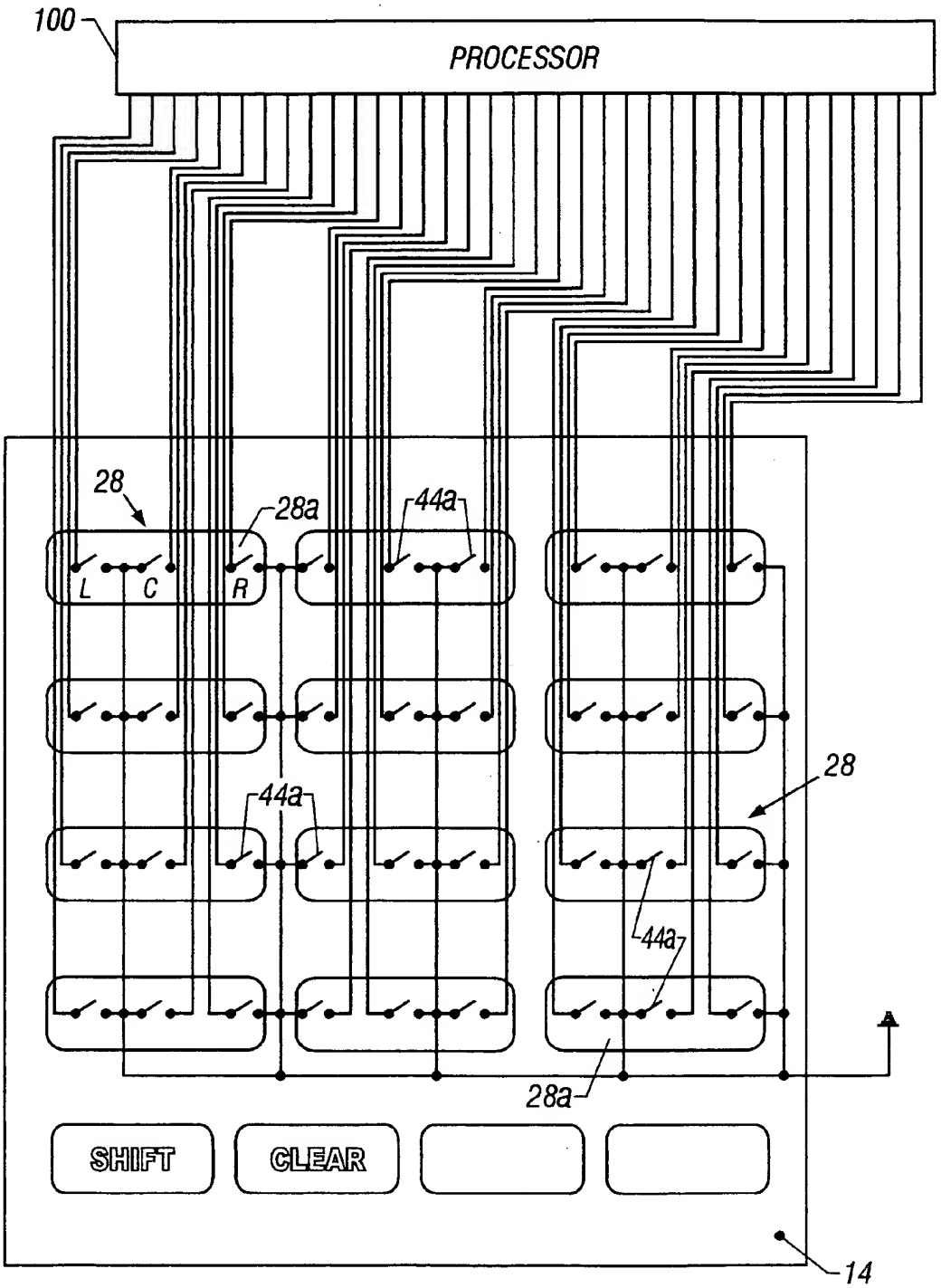

FIG. 5D

		DISPLAY			
Button	Mode of operation	SHIFT Position	Action A	Action B	Action C
1	NUMERIC/SHIFT OFF		1	1	1
2	NUMERIC/SHIFT OFF		2	2	2
3	NUMERIC SHIFT OFF		3	3	3
4	NUMERIC/SHIFT OFF		4	4	4
5	NUMERIC/SHIFT OFF		5	5	5
6	NUMERIC/SHIFT OFF		6	6	6
7	NUMERIC/SHIFT OFF		7	7	7
8	NUMERIC/SHIFT OFF		8	8	8
9	NUMERIC/SHIFT OFF		9	9	9
*	NUMERIC/SHIFT OFF		*	*	SHIFT ON
0	NUMERIC/SHIFT OFF		0	0	0
#	NUMERIC/SHIFT OFF		#	#	#
1	ALPHA/SHIFT ON	SHIFT	+	-	/
2	ALPHA/SHIFT ON	SHIFT	A	B	C
3	ALPHA/SHIFT ON	SHIFT	D	E	F
4	ALPHA/SHIFT ON	SHIFT	G	H	I
5	ALPHA/SHIFT ON	SHIFT	J	K	L
6	ALPHA/SHIFT ON	SHIFT	M	N	O
7	ALPHA/SHIFT ON	SHIFT	P	R	S
8	ALPHA/SHIFT ON	SHIFT	T	U	V
9	ALPHA/SHIFT ON	SHIFT	W	X	Y
*	ALPHA/SHIFT ON	SHIFT	Q	*	SHIFT OFF
0	ALPHA/SHIFT ON	SHIFT	\	@	SPACE
#	ALPHA/SHIFT ON	SHIFT	Z	#	•

Fig. 6A

		DISPLAY			
Button	Mode of operation	SHIFT Position	Action A	Action B	Action C
1	NUMERIC/SHIFT OFF		1	1	1
2	NUMERIC/SHIFT OFF		2	2	2
3	NUMERIC SHIFT OFF		3	3	3
4	NUMERIC/SHIFT OFF		4	4	4
5	NUMERIC/SHIFT OFF		5	5	5
6	NUMERIC/SHIFT OFF		6	6	6
7	NUMERIC/SHIFT OFF		7	7	7
8	NUMERIC/SHIFT OFF		8	8	8
9	NUMERIC/SHIFT OFF		9	9	9
*	NUMERIC/SHIFT OFF		*	*	*
0	NUMERIC/SHIFT OFF		0	0	0
#	NUMERIC/SHIFT OFF		#	#	#
1	ALPHA/SHIFT ON	SHIFT	+	-	/
2	ALPHA/SHIFT ON	SHIFT	A	B	C
3	ALPHA/SHIFT ON	SHIFT	D	E	F
4	ALPHA/SHIFT ON	SHIFT	G	H	I
5	ALPHA/SHIFT ON	SHIFT	J	K	L
6	ALPHA/SHIFT ON	SHIFT	M	N	O
7	ALPHA/SHIFT ON	SHIFT	P	R	S
8	ALPHA/SHIFT ON	SHIFT	T	U	V
9	ALPHA/SHIFT ON	SHIFT	W	X	Y
*	ALPHA/SHIFT ON	SHIFT	Q	(	*
0	ALPHA/SHIFT ON	SHIFT	\	@	SPACE
#	ALPHA/SHIFT ON	SHIFT	Z	)	#

Fig. 6B

KEY PRESSED		INPUT RECEIVED	
		COLUMN	ROW
1	LEFT	1	1
	RIGHT	2	1
2	LEFT	3	1
	RIGHT	4	1
3	LEFT	5	1
	RIGHT	6	1
4	LEFT	1	2
	RIGHT	2	2
5	LEFT	3	2
	RIGHT	4	2
6	LEFT	5	2
	RIGHT	6	2
7	LEFT	1	3
	RIGHT	2	3
8	LEFT	3	3
	RIGHT	4	3
9	LEFT	5	3
	RIGHT	6	3
*	LEFT	1	4
	RIGHT	2	4
0	LEFT	3	4
	RIGHT	4	4
#	LEFT	5	4
	RIGHT	6	4

Fig. 7

KEY PRESSED		INPUT RECEIVED	
		COLUMN	ROW
1	LEFT	1	1
	CENTER	2	1
	RIGHT	3	1
2	LEFT	4	1
	CENTER	5	1
	RIGHT	6	1
3	LEFT	7	1
	CENTER	8	1
	RIGHT	9	1
4	LEFT	1	2
	CENTER	2	2
	RIGHT	3	2
5	LEFT	4	2
	CENTER	5	2
	RIGHT	6	2
6	LEFT	7	2
	CENTER	**8**	**2**
	RIGHT	9	2
7	LEFT	1	3
	CENTER	2	3
	RIGHT	3	3
8	LEFT	4	3
	CENTER	5	3
	RIGHT	6	3
9	LEFT	7	3
	CENTER	8	3
	RIGHT	9	3
*	LEFT	1	4
	CENTER	2	4
	RIGHT	3	4
0	LEFT	4	4
	CENTER	5	4
	RIGHT	6	4
#	LEFT	7	4
	CENTER	8	4
	RIGHT	9	4

Fig. 8

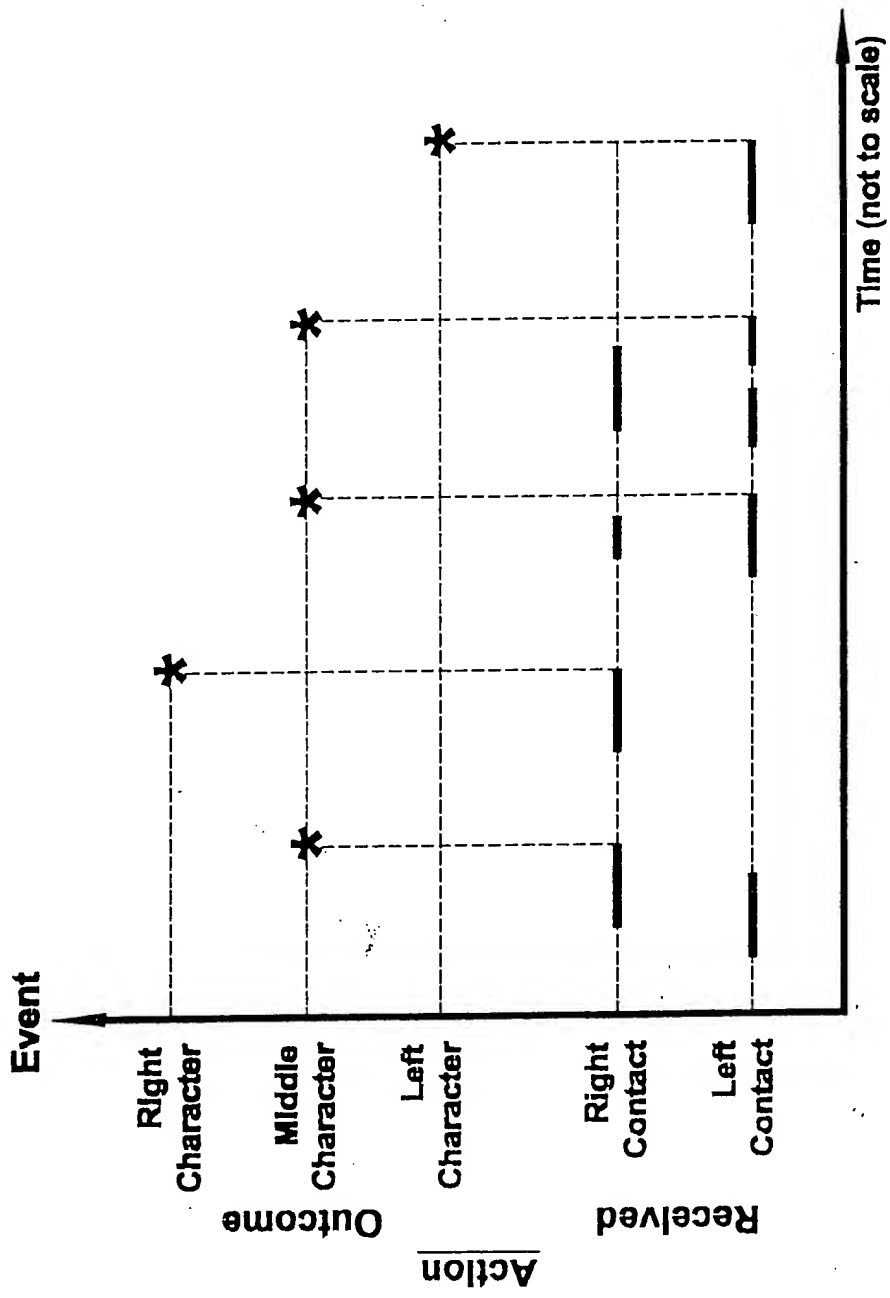
Time (not to scale)
Event
Right Character
Middle Character
Left Character
Right Contact
Left Contact
Outcome
Received
Action

Fig. 9